

## **ABSTRACT**

### **BACKGROUND:**

Hypertension increases the risk of CVD significantly twice. Although antihypertensive medications reduces these risks, still huge subset of hypertensive patients either remains untreated or not treated adequately. Resistant hypertension, has an estimated prevalence of 10% to 15% among all treated hypertensive patients. They are more prone for cardiovascular events than controlled hypertensives and healthy normotensives. Platelet size and function is measured by Mean Platelet Volume (MPV). Younger platelets are larger and are more thrombotic than smaller ones, which is one of the reason for increased ischemic events in hypertensive patients. This study was did to assess whether the mean platelet volume was higher in resistant hypertensive patients than in controlled hypertensive and healthy normotensive subjects.

**TOPIC: A STUDY ON MEAN PLATELET VOLUME IN SUBJECTS WITH NORMOTENSION & IN PATIENTS WITH CONTROLLED AND RESISTANT HYPERTENSION**

**METHODOLOGY:** A cross sectional study was done for 1 year from September 2017 to August 2018 on 150 subjects (50 Normotensives, 50 Controlled hypertensives and 50 Resistant hypertensives) at Institute of Internal medicine, RGGGH, Chennai-03. After subjecting to detailed history, examination, BP measurement and inclusion/exclusion criteria, one was categorized to anyone of the 3 group. Venous blood samples are collected from all participants and Mean platelet volume was measured using fully automated

hematology analyzer - Sysmex XN-1000. Statistical analysis was done using ANOVA and independent T tests in SPSS 17.0 software.

## **RESULTS:**

We observed mean value of MPV for healthy normotensive subjects was 8.21 (SD 0.90), for controlled hypertensives 8.94 (SD 0.83), for resistant hypertensives 10.20 (SD 1.06) with statistically significant (F value – 57.185 &  $P < 0.001$ ) difference in MPV among each group. This shows MPV is significantly higher in CHTN group compared to normotensives; and RHTN group has significantly higher MPV compared to both above mentioned groups.

## **CONCLUSION:**

Mean platelet volume was significantly higher in resistant hypertensives than in controlled hypertensives and normotensives. By estimating mean platelet volume(MPV), a simple and cost effective test we can determine the high risk group for atherosclerotic events in future among middle age resistant hypertensive patients.

## **KEYWORDS:**

Mean Platelet Volume, Resistant Hypertension, Controlled Hypertension, Normotension